

In the Claims

Please cancel claims 33-50 without prejudice.

1. (Currently Amended) An array comprising a plurality of biological membrane microspots stably associated with a surface of a substrate, wherein the substrate is adapted such that the microspots remain adsorbed when drawn through an air-water interface.
- 2.-32 (Original)
2. The array of claim 1, wherein the biological membrane microspots comprise a membrane bound protein.
3. The array of claim 2, wherein the membrane bound protein is a G-protein coupled receptor.
4. The array of claim 2, wherein the membrane bound protein is an ion channel.
5. The array of claim 2, wherein the membrane bound protein is a receptor tyrosine kinase.
6. The array of claim 1, wherein the substrate comprises glass, metal, or plastic.
7. The array of claim 1, wherein the substrate is configured as a chip, a slide or a microplate.
8. The array of claim 1, wherein the surface is coated.
9. The array of claim 8, wherein the coating is a material that enhances the affinity of the biological membrane microspot for the substrate.

10. The array of claim 9, wherein the material confers a contact angle ranging from about 15° to 80°.
11. The array of claim 9, wherein the material is a silane, thiol, or a polymer.
12. The array of claim 9, wherein the thiol is on a substrate comprising a gold-coated surface.
13. The array of claim 9, wherein the thiol comprises hydrophobic and hydrophilic moieties.
14. The array of claim 13, wherein the thiol is a thioalkyl compound.
15. The array of claim 11, wherein the silane is on a substrate comprising glass.
16. The array of claim 11, where in the silane presents terminal polar moieties.
17. The array of claim 16, wherein the terminal polar moieties are hydroxyl, carboxyl, phosphate, sulfonate, or amino groups.
18. The array of claim 16, wherein the surface is positively charged and contains amino groups.
19. The array of claim 9, wherein the material is γ -aminopropyl-silane.

20. The array of claim 9, wherein the material is a derivatized monolayer having covalently bonded linker moieties.
21. The array of claim 20, wherein the monolayer is a self assembled monolayer.
22. The array of claim 21, wherein the monolayer comprises a thioalkyl compound or a silane compound.
23. The array of claim 22, wherein the thioalkyl is selected from the group consisting of a thioalkyl acid, thioalkyl alcohol, thioalkyl amine, and halogen containing thioalkyl compound.
24. The array of claim 23, wherein the compound is a thioalkyl acid.
25. The array of claim 24, wherein the thioalkyl compound is 16-mercaptohexadecanoic acid.
26. The array of claim 22, wherein the silane compound is selected from the group consisting of a silyl anhydride, silyl acid, silyl amine, silyl alcohol, vinyl silane or silyl acrylate.
27. The array of claim 20, wherein the linker moiety comprises a straight or branched C₁₀ – C₂₅ alkyl, alkynyl, alkenyl, aryl, araalkyl, heteroalkyl, heteroalkynyl, heteroalkenyl, heteroaryl, heteroaraalkyl molecule comprising:
- (i) a terminal functional group capable of reacting with the derivatized monolayer;
 - (ii) a hydrophilic spacer region; and
 - (iii) a hydrophobic membrane adhering region.

28. The array of claim 27, wherein the terminal functional group is selected from the group consisting of a carboxylic acid, halogen, amine, thiol, alkene, acrylate, anhydride, ester, acid halide, isocyanate, hydrazine, malcimide and hydroxyl group.
29. The array of claim 27, wherein the hydrophilic spacer region comprises n oxyethylene groups, wherein n = 2 to 25.
30. The array of claim 27, wherein the membrane adhering region comprises a straight or branched chain C₁₀ – C₂₅ hydrophobic tail.
31. The array of claim 1, wherein the surface is nano-porous.
32. The array of claim 1, wherein the substrate is selected from the group consisting of glass, polymeric materials, and metallic substrates.
51. (Currently Amended) An array comprising a plurality of biological membrane microspots stably associated with a surface of a glass substrate, wherein the surface is coated with γ -aminopropyl-silane and the biological membrane microspots comprise a G-protein coupled receptor and the substrate is adapted so that the microspots remain adsorbed when drawn through an air-water interface.
52. (Currently Amended) An array comprising a plurality of biological membrane microspots associated with the surface of a substrate, wherein the surface of the substrate is adapted such that the array is capable of being ~~can be~~ produced, used, or stored in an environment exposed to air under ambient humidity.
53. (Previously Amended) The array of claim 52, wherein the biological membrane microspots retain their ability to bind to a ligand when stored in air.